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ABSTRACT

This report deals with two basic areas related to open learning system development. It identifies nine functions or operating characteristics which need to be present in a fully complete open learning system. These characteristics deal with the formulation of objectives, the incentives and rewards that students may bring to open learning, the operation of an instructional design process, the economics of open learning systems, the use of technology, the role of evaluation, the separation of teacher and learner, the use of the learner's environment, and the role of community resources. The report calls for the establishment of a national body to be charged with the tasks of developing the open learning system concept in four areas of educational need: creating a new institution, opening up a current institution of higher education, activating an open learning system in a work-study program, and activiating an open learning system in an area of continuing professional education. This agency would also have the responsibility for exploring numerous policy and operational questions that will affect the establishment of open learning systems. A bibliography is provided listing foreign and domestic open learning reports and experiences. (Author/DAG)

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OPEN LEARNING SYSTEMS

A
REPORT
OF THE
NAEB

TO THE
NATIONAL INSTITUTE OF EDUCATION

MARCH 1974

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There is great pressure for improvement in academia because the traditional system is economically untenable. The productivity is so unspeakably low and the costs are so unspeakably high. I think this will force changes.

Students are going to have to stop going to school sooner, and institutions are going to have to enable them to come back more easily and more often. The residential factor will have to be curtailed or possibly eliminated; it is just too expensive. The subway college is clearly gaining.

The idea of continuing education as the central education, instead of the acquisition of information by the young, may be utopian. Certainly, the entire structure of disciplines and required courses and degrees is against it. But I think that economic necessity is, for once, on the side of utopia.

Peter F. Drucker
Continuing Comment, Spring, 1973

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DESCRIPTION OF MAIN FINDINGS

SUMMARY

This report deals with two basic areas related to open learning system development.

First, it identifies nine functions or operating characteristics which need to be present in a fully complete open learning system. These characteristics deal with the formulation of objectives, the incentives and rewards that students may bring to open learning, the operation of an instructional design process, the economics of open learning systems, the use of technology, the role of evaluation, the separation of teacher and learner, the use of the learner's environment, and the role of community resources.

Second, the report calls for the establishment of a national body to be charged with the tasks of developing the open learning system concept in four areas of educational need, and with the responsibility for exploring numerous policy and operational questions that will affect the establishment of open learning systems.

ESSENTIAL CHARACTERISTICS OF OPEN LEARNING SYSTEMS

The literature on open learning has focused primarily on the social and individual needs for open learning and on descriptions of proposals for meeting these needs. Consistently, the proposals speak of developing learner-oriented educational systems, though many of these systems provide largely traditional educational experiences in conventional format for the customary reward, an academic degree.

The premise of most proposals appears to rest on opening up current educational institutions. The NAEB study has attempted to go one step further - to determine the directions in which we believe open learning systems should move in order to effectively complement existing education systems. This has led us to examine first the characteristics which must be present to bring open learning systems into existence for learners wherever they are.

We have asked ourselves what must characterize a system that will enable open learning to occur; that will be learner-centered; that will diminish dependencies; that will orient itself more toward learning than toward instruction.

The following characteristics have been identified and are phrased as statements of operational capacity that must be present in a fully developed open learning system.

ESSENTIAL CHARACTERISTICS OF OPEN LEARNING SYSTEMS

1. The system must guide a student by eliciting, interpreting and analyzing goals at the beginning point and throughout the student's contact with the program of instruction.

2. The system must formulate learning objectives in such a way that they serve as the basis for making decisions in instructional design, including evaluation, and in a way that they will be fully known to, accepted by, or capable of modification by students.

3. The system must facilitate the participation of learners without imposing traditional academic entry requirements, without the pursuit of an academic degree or other certification as the exclusive reward.

4. Costs of the system must not be directly and rigidly volume sensitive. As an operating principle, after reaching a critical minimum enrollment, unit costs should show a diminishing relationship to total systems costs.

5. To provide the flexibility required to satisfy a variety of individual needs, the system should make it operationally possible to employ sound, television, film, and print as options for mediating learning experiences.

6. The system should use testing and evaluation principally to diagnose and analyze the extent to which specified learning objectives have been accomplished. In other words, the system should be competency-based.

7. The system must be able to accommodate distance between the instructional staff resources and the learner, employing the distance as a positive element in the development of independence in learning.

8. The system must accept the learner and his surroundings as the environment for learning, and must concentrate on enriching that environment.

9. The system must seek and maintain the active cooperation of community and regional resources which can be an aid in making the learning environment a part of daily living and fostering the notion of the "learning society."

Those are the principal characteristics that have been identified as necessary components for a fully open learning system. We do not think that every effort undertaken in open education needs to exhibit all of these qualities, but we do think that such efforts should be examined against these criteria and that exceptions should be explained and understood. An open university, for example, is still a university and may quite possibly have a decidely closed attitude about the matter of the learner's reward; if so, the student's reward will be a traditional academic degree. So in that respect it is less than a fully open learning system, and we urge that care be used in labeling to avoid mis-statements about what it is, or isn't.

We are speaking of a fundamentally new institutional concept in education. It is not simply a variation on traditional academic tunes, or relaxed entry requirements for regular institutions; one member of the advisory committee puts it this way: "Open education is not a variant form of traditional education but the opposite of it."

RECOMMENDATIONS

We recommend the establishment of a National Agency* for Open Learning System Development.

Such a group would be an independent body, funded initially from foundation and other private sources, and subsequently by the federal government. Its purpose would be explicit: to develop open learning systems that exhibit all, or nearly all, of the functional characteristics that have been identified in this report.

We envision this Agency as having a life span of eight to ten years since it is likely that such an interval will be required for its work to be designed, implemented, and operationally complete. Following that period, and based on the experience of the Agency, a general plan for the support and operation of open learning systems should be able to be devised and implemented. The future role of the National Agency, should be determined at that time.

We suggest a period of 18 - 24 months to prepare in detail the program that the Agency should fund and implement. During this time, we believe that foundation funds and corporate funds could be raised to cover approximately $750,000 to $1,000,000 that would be required to carry out this initial work.

We suggest that the American Council on Education, the Joint Council on Educational Telecommunications, the NAEB, the National Institute of Education, and the U.S. Office of Education be convened to initiate and pursue the recommendations of this report.

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* We have considered other names, including National Commission, National Corporation, National Institute, and National Committee. The word "commission" suggests further study and our recommendation calls for more than that; the word "corporation" suggests the requirement of statutory authority, which we do not believe is necessary; the word "institute" competes with the title of the National Institute of Education; and the word "committee" strikes us as weak in the context of the affirmative program of development that we envision.

THE TASK OF THE NATIONAL AGENCY

The work of this independent group will fall into three separate but very much inter-related areas:

1. Investment of funds in developing open learning systems in at least four different settings.

2. Continuing analysis of policy and operational questions which are known in advance and which emerge during the developmental period.

3. Maintenance of an information clearinghouse for activities being undertaken in open learning.

Investment of Funds to Develop Open Learning Systems in Different Post-Secondary Settings

There are at least four areas in which open learning system techniques will need to be developed. Ultimately these will bear some relation to each other. For now, they represent the basic settings in which the initial developments should take place. They will be operationally distinct, but together they will provide enough variation to be certain that the various questions surrounding the open learning system development are examined in most of the likely contexts.

The four areas of investment should be these:

A) Investment in a new institution.

Projects currently underway that are essentially campus-free could be considered; large-scale regional programs could be considered. The principal characteristic is that the new institution should embody all of the functional characteristics of open learning that were described in the previous section.

B) Investment in opening up a current institution of higher education.

An institution that has demonstrated its desire to transform its current program of instruction into an open learning system should be identified. No single building or single campus operations should be considered; this should be an opportunity to develop traditional extension education into an open learning system.

C) Investment in activating an Open Learning System in a work-study program.

Numerous possibilities exist here for cooperative programs with manufacturers and industrial groups, state and local governments, and special employment efforts to train and hire the unemployed. It is suggested that this be a major undertaking, involving substantial corporate efforts combined with developmental assistance from the National Agency.

D) Investment in activating an Open Learning System in an area of continuing professional education.

The National Agency should seek one or more areas of continuing professional education and training (e.g., medicine, chemistry, education, insurance) for the purpose of implementing the characteristics in a setting where the goals and incentives of continuing professional education will play an important role.

Continuing Analysis of Policy and Operational Questions

It is important that policy and operational questions be examined with regard to the impact of various alternatives on the ability of the open learning system to carry out its essential functions. At this stage of the concept's development, the following areas will need special study and work. The following illustrate some of the topics.

Policy Areas

1. Copyright: developing policies which reward and facilitate the copying of materials while at the same time compensating owners fairly for their works.

2. Learning Centers: developing policies and codes which could result in learning center spaces in publicly financed housing, in office buildings, and at other locations where open learning programs could be effectively used.

3. Finance: developing the economic principles against which the effectiveness of a technology-based open learning system can be measured. This should result in new ways of examing the financing of education, both from the viewpoint of how a system is paid for and how its costs are determined and projected.

4. Faculty: reward, security and incentive systems for faculty and teaching personnel will need to be established.

5. Certification: policies regarding certification systems appropriate to various learner needs and goals will need to be established.

6. Communication: the operation of the open learning system may require certain changes in the regulatory policy of the Federal Communications Commission. This will need to be studied.

7. Facilities: funding policies for learning centers and related facilities will need to be developed and changes in existing programs will need to be considered if necessary. Policies regarding support for such areas as learning centers in public housing, access to cable systems, and patterns of support for public broadcasting will need to be developed.

8. Structure: policies that will facilitate crossing state, administrative and legal boundaries in establishing operating systems that need not be limited to current jurisdictions.

Operational Areas

1. Staff: position descriptions for personnel with capacities related to the functional characteristics of open learning systems will need to be developed; training programs for those who wish to work in open learning systems will need to be devised and operated.

2. Instruction: operation of course teams for planning and executing instruction will need to be carefully designed, including specification of objectives, learning programs, selection and use of media, testing and evaluation.

3. Governance and management: special problems of governing managing and administering open learning systems will need to be identified and resolved.

4. Finance: developing systems for amortization of course units and complete courses; determination of various means of payment for individual courses of study.

5. Students: determining the market for various course possibilities; determining means by which students may participate in setting goals and objectives; assessing levels of interest in courses of study; developing means of attracting students; assessing entry levels.

6. Student support services: development of techniques for counseling and guidance programs; reporting of diagnostic testing programs; registration procedures; distribution of instructional and other materials.

7. Testing and evaluation: developing policies that are consistent with different levels of interest in various certification and reward programs.

Information Clearinghouse

The development of any new concept will rely heavily on the perceptions and experiences of many persons who have associated themselves with its development. It is essential that the National Agency either carry out itself, or contract for, the collection, maintenance, and distribution of information which will be a resource through which personnel, projects, research studies, and programs can be identified and located.

BACKGROUND

ORIENTATION TO THE STUDY

The origin of this study is important to know because it at first will seem unlikely that a group of educational broadcasters and a small grant would be the place to look for clear thinking on the open learning front.

What happened was this. In conversations with colleagues in and outside the government it became apparent that the new "thing" in educational circles was going to be open education. Virtually every mildly unorthodox or "non-traditional" approach to education was seen as the key to undertaking an open education program. Spurred along by the successes of the British Open University and encouraged by the possibilities of thinking outside the traditional institutional frameworks, many educators have embraced open education as an attractive new concept.

NAEB was interested in the concept, too, since it was our assumption that many open education developments would be employing communication technology in one way or another. Since communication technology is both the institutional and professional focus of NAEB, we suggested that a useful step at this stage of open learning developments would be to describe those characteristics of open learning systems which both identify the concept and help distinguished projects which deserve to be called open learning from those which do not.

In a practical sense, we have seen communication technology as a means of managing scarce resources. No place has all the money or all the teaching talent that it needs, so means of avoiding waste and operating efficiently are always necessary. Because communication technology makes it possible to manage the resources that are required for education in

new ways, we proposed that this principle be studied in connection with open learning system developments.

Educational efficiency is not a very popular idea; it suggests ruthless, mindless, hard-nosed (if not hard-headed) business types who view the teaching-learning operation as a sequence of inputs and outputs which should be subject to exact measurement and scrutiny. This view is not simply unfortunate, it is irresponsible. For the fact is that educators everywhere have reduced to slogans the principles of local control, teacher support, teacher control, and independence. To say this is not to condemn the practice, but to discern its outcome. The result is an education system which is costly, not at all careful about the management of its resources, and largely incapable of any significant change or improvement.

This is not to ignore the numerous and successful efforts at improving specific schools or education systems. They should be applauded, not ridiculed. But the general condition of education will not be affected by them since they are nearly always at a scale which cannot be afforded on a mass basis and their effectiveness comes from the consolidation of resources which are not available outside of special circumstances. So the question of mounting a large scale effort that will make it possible to manage our educational resources wisely is one that remains. And open learning systems may be the critical development that directs attention to the question.

Several recent study groups and commissions have looked into the possibilities of open education systems. But the idea of freeing learning opportunities from traditional institutional inhibitions is not particularly new. Numerous people have devoted what could reasonably be called a professional life-time to this task.

Nonetheless we felt that it would be useful to see where the current studies and the long history of open education efforts were leading. So rather than start all over again, the advisory committee agreed to build on previous work and see what could be drawn from it that would provide some definition of what an open learning system, at its most complete, would be like. We did not aim at a one-sentence definition, but rather sought operational descriptions of what an open learning system should make it possible to do.

In other words, the word "open" needs to describe the various dimensions of an education system that need to be "opened up." Typically, there has been satisfaction that opening up access to education is the overriding factor; surely this is a fundamental point but there is much more that can be "opened." For examples: how the system deals with learners in formulating the program of instruction, how it deals with learners in evaluating instruction, how it deals with the reward systems of education, how it deals with the learner's environment, how it employs instructional methods to suit learner contingencies, how it deals with the economics of operating education systems, how it designs and provides instruction.

It is our conclusion that an open education system that does not acknowledge the need to open up traditional approaches to these points is not in fact very "open" at all. It is merely an extension of traditional educational practice. And while that may be very useful and important, it is not open education.

In the report of the Commission on Non-Traditional Study, Diversity by Design, its Chairman, Dr. Samuel Gould wrote:

> "Full opportunity to learn cannot be limited to the young; it must be for everyone, in any walk of life, for whatever purposes are beneficial. It cannot be reserved to a single period of life; it must be a recurrent opportunity: an opportunity to update a skill, to broaden the possibilities of a career whether old or new, or to add intellectual zest and cultural enrichment throughout life. No longer can it be the single opportunity of a lifetime; now it must become the total opportunity for a lifetime."

It takes an open education system to respond to that charge, and opening up the access to current forms of education and instruction will not accomplish the task; it may not even be a step in the right direction. This is not to suggest that barriers which unnecessarily prevent access to our traditional educational system should be maintained; but it is to argue that removing them does not automatically yield an open learning system.

Thus, if in pursuit of open education and open learning the focus is simply on devising new ways of offering traditional academic degrees, the scope of open learning's objectives will be limited. Moreover, less will have been done than it is possible to do and the development of this exhilarating new institutional concept will be burdened with the trappings, however meritorious in their own setting, of traditional education. Millions of interested persons will have been deprived of educational opportunities.

That is why we are interested in open education and why we proposed to help define it and to think through what might be done to advance it.

THE CONCEPT OF OPEN EDUCATION

The term "open" has been given to so many experimental educational programs, at so many levels, that it is difficult to find a common definition that will describe, or be acceptable to, all the different enterprises that use the term. There are "open" schools at the pre-school level, the primary-elementary and secondary level, and in higher and continuing education. However, all the open schools have one principle in common: they are to a greater or lesser extent efforts to expand the freedoms of learners.

Some of the open schools are open only in a spatial sense, with learners in school freer to move about in more individualized work patterns; others provide freedoms in more significant dimensions -- in admissions, in selection of courses, in adaptation of the curriculum to the individual, and freedoms in time as well as space. Still others approach further freedoms, such as learner goal selection, reaching the learner where he is, in his own environment and situation, on his own terms, and involving him in the evaluation of achievement of the goals that he has selected.

The following points illustrate the detail and the comprehensiveness of open education.

WHAT OPENS EDUCATION?

Opening education to more people -- of all ages -- to enroll in formal and informal programs regardless of where they live, their age, previous experience, schooling, or socio-economic condition; a broadening and spreading of educational opportunity.

Employing some approach to open admissions (no restricted "places"; credit for previous learning; credit by exam; recognition of life and work experience and independently acquired learning.)

Employing multiple open channels for communications (learning) via radio, TV, mail or other media in independent study approaches, as well as class and group experiences.

Making available an open curriculum relevant to the life and learning styles of different people, all of whom carry some degree of responsibility for selecting their own goals, helping in curriculum development, and participating in decision-making regarding their own learning.

Facilitating open access to learning in homes, libraries, on jobs, in communities as well as in schools; in other words the broadening or opening of the learning environment.

Encouraging the open participation of part-time learners who combine working with learning.

Seeking open accreditation between the regular and open schools.

Arranging open cooperation, resource and staff sharing between the regular and open schools, libraries, public and private schools, business, industry and community resources -- in

program policy
program development
program delivery
program access
and program evaluation

Regarding as highly relevant the needs, convenience and individually oriented life situations of the learners; programs that are learner oriented.

Recognizing that life-long learning is an imperative, and seeking to diminish the dependency of learners on "other directed" learning by teaching learners to be to a larger extent responsible for their own learning, and to have confidence in proceeding without the dependency relation that is fostered in conventional schools.

Regarding as irrelevant the question of whether teachers and learners are always present at the same time and in the same place, because the ultimate learning "environment" is the learner himself, wherever he is, with the open school communicating, supporting, encouraging, serving and guiding.

Creating new roles for teachers, with teachers as critic, guide, adviser, mentor, and problem-solver.

Accepting the learner as a full partner in the processes that link teaching and learning towards mutually selected and accepted goals; the individualization of teaching based on the recognition of the individuality of learning; and the involvement of the learner in the evaluation of progress and achievement.

OBSERVATIONS ABOUT THE RECOMMENDATIONS

Our review of the various studies and commission reports reveals their tendency to recommend further research, initiate a small project, undertake experimentation in open learning, appoint committees to look into special problems in open learning, and in some instances to recommend a plan for development in a particular location.

In their contexts, nearly all of these recommendations are thoughtful and constructive. Many have yielded educational efforts that are described with the label "open education." In virtually no instance will any of those operations exhibit very many of the essential characteristics that we have described. That problem aside, the difficulties of operating even incomplete programs are varied and persistent: developing suitable course materials is expensive and usually relies on traditional resources and patterns of instruction; student guidance and counselling is seldom related functionally to the program of instruction; the hardware options are often limited; and the number of students is almost always too low for economies of scale to prevail.

The evidence suggests to us that there has been something missing in the development of the open learning system that has kept this worthy concept from becoming a more common practice. And it is difficult to find in any of the current projects or more especially in funding practices any reason to believe that the situation has changed.

We believe that what has been missing is a national policy which affirmatively and confidently pursues the development of open learning systems as they have been described here. There has been funding at the state and national levels as well as from foundations, but the evidence thus far is that

no funding program has had the specific charge of making the full open learning system work.

Harsh though this sounds, we have reluctantly come to the conclusion that this situation exists because there is really no mechanism in this country to fund a fundamentally unique institutional development in education. There is always money for experimentation or research but there is neither money nor responsibility assigned for approaching a new institutional concept positively with the intent of making it work.

At the same time, we seem to have exhausted the many virtues of study groups on the question of open education and our own study is no exception. The fact is that many of the issues in open education cannot be resolved in advance, in the abstract; they are operating questions that need operational experience before answers can be determined. And in a great many instances, the answers will be governed by different situations and will not lend themselves to national pronoucements or at-large resolutions from anxious educational bodies.

None of this is to suggest that an ongoing program of research is not vital to the development of open learning. It is essential, and is clearly noted in the definition of functional characteristics. The research components of open learning should give it its vitality and relevance, but they should not be reduced to esoteric questions whose answers will be operationally ambiguous. And that quality, unfortunately, has been present in nearly all of the work which seeks "basic" answers before proceeding with the development of open learning.

We do not see that any of the basic questions about open learning can be resolved in this fashion, but we do think they will be resolved in the

course of developing the open learning system concept. And to give this the best possible change of success, we have recommended the establishment of a body specifically charged with making it work, not to see if it will work, but making it work. We see this as the only means of providing a hospitable climate for development and as the only practical means of providing the necessary interval for development which in reality is going to be five to ten years.

Beyond that point, enough operating experience should be available to have confidence in the open learning concept or to abandon it. Should it be valuable and worthy of continued support it would be the responsibility of the National Agency to spell out the ways in which its continued existence should be supported.

It should go without saying that we realize the cynicism that will accompany the recommendation for "yet another national agency." So it is only fair to acknowledge that our early reactions were much the same and we considered many other approaches before fixing on this particular one. We can only hope that the examination of our findings will reveal the practicality of this suggestion. Failing that we surely welcome further discussion of this idea or any alternative recommendation which will advance the specific purposes that we have described. It is essential to remember that we have recommended first what needs to be done, and second, an institutional framework within which to do it.

No recommendation of this kind is easy to implement, but we feel that the purpose is an essentially worthy and vital one and will result in nothing less than Dr. Gould's wise perception, cited earlier, that it is time to develop a capacity to provide educational opportunity, not of a lifetime, but for a lifetime.

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